



TO: Valerie Knepper, MTC

DATE: May 12, 2016

FR: Terri O'Connor, CDM Smith

RE: *Regional Parking Project: Policy Approach for Management and Funding of Parking Supply at Transit Stations*

The purpose of the Value Pricing Pilot (VPP) Parking Pricing Project effort was to conduct policy and data analysis to address the relationship of parking policies and land use and transportation, and to define regional parking policy approaches, particularly pricing, and funding to support regional goals for infill development and VMT/GHG reductions.

This memo outlines what MTC can do to support regional transit station access through supportive policies, the investment of regional funds, and the use of technical assistance grants for Station Access Improvement Plans that follow the TCRP 153 eight step process detailed subsequently.¹

Bay Area Station Area Planning Policy

Commuter focused transit agencies such as BART and Caltrain rely heavily on station parking supply as the primary access for the riders in the Bay Area. BART is in the process of updating their Station Access Policy and has conducted a thorough review of their program since 2003 and of comparable transit system policies and approaches. Caltrain received an FTA grant in 2015 to develop a station management toolbox in line with their 2010 Comprehensive Access Program Policy.² The project is expected to be completed by the middle of 2018.

Sonoma-Marín Area Rail Transit (SMART) has developed a balanced approach to station access and parking in line with MTC's smart growth objectives. SMART is working directly with partner cities to develop fourteen (14) station area plans that meet the needs of each individual community, several of which have no planned station parking.³

BART's system is unique because it is both a critical suburban commuter and urban transit system and it is experiencing significant core capacity limitations during peak commute hours. BART has 427,000 daily riders and 47,000 parking spaces, averaging approximately 9.1 riders per space. According to BART's analysis of peer transit systems none has as much parking devoted to rail service and most have more riders per parking space than BART, indicating these systems have more stations reliant on other modes of access.⁴

¹ http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_153.pdf

² <http://www.caltrain.com/Assets/Public+Affairs/pdf/Comprehensive+Access+Policy.pdf>

³ http://www2.sonomamarintrain.org/userfiles/file/12_whitepaper_stationplanning.pdf

⁴ http://www.bart.gov/sites/default/files/docs/BART%20Access%20Policy%20Update%20-%20Policy%20Context%20and%20Best%20Practices%20Review_1.pdf

Policy Approach for Pricing and Management at Transit Stations

Simply improving access to the stations and the BART system would merely intensify peak period Transbay congestion. Therefore, improving access to BART's system must focus on the off-peak travel period until BART is able to address its peak capacity problem.

Because most BART parking facilities are at capacity, simply adding more park and ride supply without a change in management approach would only serve to increase arrivals during the periods of heaviest traffic, exacerbating peak congestion within the BART system. To mitigate this issue, any supply added to the system would need to serve shorter-term users and/or later arrivals who are usually shut out of all BART parking after 10AM.⁵ The same is true for Caltrain "Baby Bullet" stations which fill in the early morning hours, limiting access to off-peak riders. BART and Caltrain may consider segmenting more of their parking supply (beyond monthly and daily reserved permits) for users who need to access the system during the middle of the day. Finally, changing who may access the parking supply and when would shift the morning mode split to favor alternate modes at key stations and flatten the arrival curve to increase midday/off-peak ridership. Segmentation of station parking supply is recommended as follows:

- **Hourly Parking Fee – new**

Unlimited hourly parking- could be piloted on a first come, first served access, starting at 7AM. Fees would be assessed based on hour of entry and for the duration of stay. This approach provides access to short-term and long-term parkers beginning at 7AM, but encourages early arrivals and price sensitive long-term parkers to seek the more economical reserved "all-day" parking alternative. The program could use existing BART payment system with modifications or a mobile payment system to control access. Regular directed enforcement of BART's system or an alternative plate based system will be essential to encourage turnover/compliance. To support hourly fees, Caltrain could employ a mobile pay-by-plate system to communicate with their enforcement team. An example of how the fees would work for BART and Caltrain is shown below:

Time of Entry ¹	Hourly Rate				
	BART Standard ²	BART Low fee ²	Caltrain Bullet	Caltrain Standard	
6:00	N/A	N/A	N/A	N/A	
7:00	\$ 3.00	\$ 1.00	\$ 5.00	\$ 2.00	
8:00	\$ 3.00	\$ 1.00	\$ 3.00	\$ 2.00	
9:00	\$ 3.00	\$ 1.00	\$ 2.00	\$ 1.00	
10:00	\$ 1.00	\$ 0.50	\$ 1.00	\$ 1.00	
11:00	\$ 1.00	\$ 0.50	\$ 1.00	\$ 1.00	
12:00	\$ 1.00	\$ 0.50	\$ 1.00	\$ 0.50	
13:00	\$ 0.50	\$ 0.25	\$ 0.50	\$ 0.25	
14:00	\$ 0.50	\$ 0.25	\$ 0.50	\$ 0.25	
15:00	\$ -	\$ -	\$ -	\$ -	
Maximum Daily Charge	\$ 13.00	\$ 5.00	\$ 14.00	\$ 8.00	
Notes: 1. Assumes parking will not be enforced after 3PM in either system, 2. Recommended BART fees are separated by the stations that currently charge a standard \$3/day and a lower fee of \$1/day.					

⁵ The City of San Leandro currently maintains 4-hour time limited parking on San Leandro Blvd in front of the San Leandro BART Station. It has had the effect of carving out a parking area for BART patrons that need midday/shorter term drive access that city staff believe is working well in the station area.

- Daily/Monthly Permit (until 10AM) – *continuation of existing program*
- Daily Fee - *continuation of existing program*
- Carpool/Vanpool/carshare - *continuation of existing program*

The recommended percent allocation of supply in the table below is a suggested guideline based on station typology. It should be noted that this is meant as a guideline only and that the amount of short-term parking needed would depend largely upon specific station area characteristics and the availability of managed on-street parking. Adjustments should be made regularly at management discretion to meet station mode-split and peak/off-peak ridership goals.

Bart Station Type	Monthly Permit	Daily Permit	Carpool/ Van Pool	Hourly Fee	Caltrain Station Type
Urban	--	--	--	--	--
Urban w/Parking	15%	35%	15%	35%	--
Balanced Intermodal	20%	50%	15%	15%	Transit Center
Intermodal - AR	25%	50%	15%	10%	Intermodal Connectivity
Auto Dependant	15%	55%	15%	5%	Auto Oriented
--	--	--	--	--	Neighborhood Circulator

Sources: 1. BART Draft Station Access Policy, April 28, 2016
2. Caltrain Comprehensive Access Program Policy Statement, May 2010.

Policy Approach for Alternative Parking Supply at Transit Stations

BART, Caltrain and VTA are all actively evaluating joint development opportunities on and around existing and future station areas. In addition to immediate station area transit oriented development (TOD), BART has been actively partnering with private property owners, institutions and cities to develop a satellite parking program to support access to its stations. BART recently developed a revenue sharing arrangement with the City of Hayward in exchange for the use of on street parking around the South Hayward BART Station for their patrons.⁶

Additionally, SMART is avoiding costly investments in new parking by relying on existing supplies in a number of historic pedestrian and transit oriented areas such as Santa Rosa's Railroad Square, Downtown Petaluma and Central San Rafael.⁷ Larger park and ride lots are recommended only for stations with good access to the 101 freeway to intercept potential riders.

MTC should encourage local municipalities to work with developers to create public-private partnerships and/or joint developments on public property to allow tax payer funds to be used for public access to transit. The development agreements that govern the parking supplies in the program must include at a minimum:

- Access for transit patrons during hours of transit system operation
- Parking management performance guidelines

⁶ <http://cityofhayward-ca.gov/CITY-GOVERNMENT/ALAMEDA-COUNTY-AGENCIES-&-OTHER-ORGANIZATIONS/shbsaa/2013/SHBParkingAccessStudyReport.pdf>

⁷ http://www2.sonomamarintrain.org/userfiles/file/11_whitepaper_parknridefinal.pdf

Policy Approach for Funding Supply at Transit Systems

In order to support local transit agencies' progressive station area planning efforts, MTC should develop a policy to support the local transit agencies' station area planning efforts and progressive Station Access Policies (SAPs) that take an analytical demand management approach to planning for park-and-ride users. Furthermore, access improvement plans that follow the eight step process from the recent *TCRP 153 Guidelines for Providing Access to Public Transportation Stations* should be recommended for agencies that do not currently have an established SAP policy approach in order to receive regional funds. This will ensure that parking supply is managed appropriately in order to best support the existing transit infrastructure investments and take advantage of off-peak capacity.

The figure below is excerpted from TCRP 153 and details the eight step planning process. The table gives examples of best practices for each of the steps that are specific to transit station access planning. Not all of the steps are applicable to every agency, depending upon where they are in the process.

Step	Examples of Best Practices
1. Identify the need	Organize agency thinking/planning upfront Fully understand issues from multiple perspectives Recognize external (non-transit agency) problems
2. Establish a collaborative environment	Identify and include all stakeholders Acknowledge inter-relatedness of various stakeholder groups Establish shared goals for transportation, environment, and economic development Understand the traveler's perspective
3. Develop objectives and principles	Address concerns of multiple stakeholders Recognize the commonalities between different stations Develop a standard set of access goals and objectives that can be applied throughout system Identify opportunities and constraints
4. Establish evaluation criteria	Develop criteria related to a range of objectives, including ridership, costs, and local impacts Limit evaluation criteria to a manageable number (typically fewer than 10) Establish data collection program to support evaluation criteria
5. Build a rich set of appropriate options	Address existing and future needs Consider station access and ridership in route alignments and station designations Integrate community design into station development Coordinate station access design with land development Consider a wide range of improvements
6. Predict outcomes and apply criteria	Improve sensitivity of travel demand models to transit access improvements Use quantitative tools to assess TOD and parking replacement Engage economic and land use forecasters Develop a strategy to measure emissions Use advanced service coverage measures to more comprehensively understand market
7. Trade-offs, negotiation, and choice	Involve MPOs in regional decision making Develop balance sheets to illustrate costs and benefits for multiple stakeholders Work with adjacent transit agencies to develop integrated fare structure and service plans Refine concepts to build consensus
8. Implementation and monitoring	Provide dedicated funding for access improvements Collect data and monitor the results of any improvements to inform future decisions

Source: TCRP 153 Guidelines for Providing Access to Public Transportation Stations

Policy Approach for Identifying the Need for Parking Structures

As part of their multi-year Regional Smart Growth Parking initiative, MTC funded a number of parking structure analyses that provide guidance on fully evaluating the need for parking structures—a multimillion dollar investment—before the investment is made. In order to ensure that any new parking supply is well conceived with regard to costs, economic value and development trade-offs, MTC should require the application or use of one or more tools or assessments equivalent to the MTC parking structure evaluation framework and others discussed below prior to the allocation of regional funds.

*The Parking Structure Technical Report*⁸ was a 6-step evaluation parking structure framework with three local case studies. It concluded that while parking structures can benefit a community in several ways, challenges with parking structures include (1) not enough demand to support the need for a structure, (2) high monetary, environmental, and opportunity costs, and (3) impacts to the community with design, circulation, and safety concerns.

*"Right Sizing" Parking Garages*⁹ used the GIS network analyst on 19 proposed parking structures to evaluate opportunities for shared and reduced parking and calculate net cost per new space. It applied network analyst to highlight the difference between theoretical and actual access for nearby populations within 10 minutes by bicycling and walking, suggesting the potential for specific infrastructure improvements to capture more riders through these modes.

*The Economic Assessment of Parking at Transit Stations*¹⁰ was an evaluation of the cost and ridership impacts of parking vs. TOD development around suburban BART stations. This study found that ridership generated by BART parking could be achieved with housing around stations instead of parking, and would generate more revenues for BART. Even near suburban stations (assuming that 25-35% of total trips are via BART for households around stations), higher density housing can be competitive with parking lots in terms of generating riders.

⁸ http://207.183.240.125/complete-streets/toolkit/files/docs/Parking%20Structure%20Technical%20Report-Challenges.%20Oppor.%20Best%20Pract_2012_Parking%20resource.pdf

⁹ "RIGHT-SIZING" PARKING GARAGES - An Analysis of Structured Parking at Transit Stations. Prepared for the Metropolitan Transportation Commission by John Urgo Revised April 3rd, 2012

¹⁰ <http://trrjournalonline.trb.org/doi/pdf/10.3141/2276-13>